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CHARACTERIZATION AND CONSERVATION OF THE PALESTINIAN *Vitis* GERMPLASM

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INTRODUCTION - Palestinian grapes still rely heavily on the use of old local cultivars (landraces). In addition, neither plant germplasm nor gene banks are exists. This situation possesses a significant reduction in the genetic diversity. Hence, there is a crucial necessity of establishing grape germplasm for conservation, investigation in various scientific fields, and initiation of any future breeding programs.

AIMS AND SCOPES - The main goals of this study were to survey the existent landraces in Palestine, describing the varieties using standardized ampelographic, morphological, and molecular methods, and accordingly establishing new vineyard collection.

MATERIALS AND METHODS - Almost 39 ampelographic informative traits (descriptors) were used to assess genetic diversity and detect similarities among 43 assumed cultivars collected from putative diverse grape genotypes grown mainly for local taple grape consumption. In addition, DNA profiling using 22 common SSR markers was also used to evaluate the genetic relationships of the population.

RESULTS AND DISCUSSIONS - Based on the primary survey, 43 assumed different cultivars were found and consequently identified at both ampelographic and morphological as well as molecular levels. In general, 30 descriptors presented highly and satisfactory divergent genotypes, whereas the remaining traits showed no or very little ampelographic variation. Based on the similarity matrix and the resulting dendrogram of these ampelographic data, distinguishable genotypes as well as some cases of synonymies and homonymies clearly exist.
At molecular level, consistent matching of the 22-SSR markers with grapevines cultivated in neighboring countries or maintained in European germplasm collections was found for 8 of the 21 different non-redundant genotypes discovered, suggesting possible synonyms as well as the occurrence of breeding selections formerly developed in USA.

CONCLUSIONS AND POSSIBLE APPLICATIONS - Genetic relationships inferred from SSR markers clearly assigned Palestinian cultivars to the *Proles orientalis subpr. antasiatica ancestral* population, and they even remarked the connection between local resources and cultivars generated from international table grape breeding. This study supports the value of collection and conservation of vines endemic to a region of immense historical importance for viticulture. Based on these results, a new vineyard collection for the obtained genetically different cultivars was established at the fruit agricultural station which belongs to the Palestinian Ministry of Agriculture.